

## The early history of the *Occupational Outlook Handbook*

*The first Handbook, intended for use by returning veterans of World War II, was a package of pamphlets bound with a humble shoelace; today, the career guide stands as one of the Bureau's remarkable publishing successes*

Harold Goldstein

**M**ore than a half century ago, the Bureau of Labor Statistics (BLS) embarked on a research program that was unique in two major respects. First, it served a group of consumers new to BLS—the educational community, including young people in schools. Second, it undertook to predict the future—an activity out of character and, indeed, more than a little uncomfortable for a staid and sober Federal agency that prides itself on its reputation for statistical reliability.

The new research activity was the occupational outlook program, which bridges the disciplines of economics and education. Linking those two fields was the concept of an “occupation”—a bundle of skills embodied in a worker who is in the labor market.<sup>1</sup> This article recounts the background against which this highly respected BLS program developed, and some of its early history.

### The changing nature of work

For centuries before the Industrial Revolution, work had been done in traditional ways, and parents could not only train their children in their own work, but also acquaint them with the limited range of other choices available to them. In George Washington’s time, more than 8 out of 10 Americans worked in agriculture. Occupational choice was not an issue for most young people, and children learned farming skills at home. Then, in the space of a few decades, the factory system emerged. Industrialization caused many older occupations to become outmoded and new

ones to arise, creating complexity in job choice and fears that skills painfully acquired might become obsolete. By the time of the Civil War, only half of the workforce was in agriculture, and by World War II, only one-eighth. Nonfarm occupations were equally vulnerable to changes brought about by the machine age. One often-cited example is the invention of the automobile, which killed off livery stables, carriage and harness making, and horseshoeing, while creating entire new industries, including automobile and tire manufacturing, oil production and refining, service stations, auto repair shops, and highway construction. With industrialization, not only was the parent’s occupation no longer open to the child, but the parent also had little comprehension of the new world of occupations with which to guide the child.

The century and a half that followed the Industrial Revolution saw two other developments that impeded the easy, well-informed entrance of young workers into the labor market. One was large waves of immigration in the late 19th and early 20th centuries, which brought to U.S. shores workers ignorant of the variety of occupations in their new homeland, of the qualifications necessary for such jobs, and of the proper guidance to give their children in this new world of work. The second development was the opening of many more jobs to minority workers following the civil rights movement in the late 20th century. Having themselves been shut out of certain lines of work, many minority parents were uncertain about how best to guide their children among the occupa-

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tions newly open to them. In both cases, a generation gap was created—parents were unable to advise their children in what had now become a difficult process of choice among expanding numbers of occupations and courses of education and training.

To cope with changes in the economy's skill requirements, the educational system was transformed in several ways. To prepare workers for new occupations, schools added courses in practical subjects to the traditional academic curriculum. At the college level, this change was embodied in the Morrill Act of 1862, which provided Federal support for land grant colleges that would give instruction in "agriculture and the mechanic arts." At the secondary school level, vocational education was introduced in the late 19th and early 20th centuries, and this initiative, too, received Federal funds under the Smith-Hughes Act of 1917. Soon thereafter, secondary schools began to offer courses in vocational agriculture, trades and industrial occupations, office occupations, vocational home economics, and distributive (wholesale and retail trade) occupations. Thus, the confusing proliferation of occupations was accompanied by an equally confusing choice among modes of acquiring skills.

Along with these general changes in the ways in which one prepared for work came many innovations in training promoted by the practitioners of occupations who organized into professional societies or craft unions. To raise standards in their fields, or to limit labor supply, or, sometimes, to compete more effectively with other occupations in disputed areas of work, some of these groups persuaded State legislatures to introduce licensing or certification requirements, and training programs were set up to meet these requirements. This credential component added even more complexity to the process of occupational choice.

To help young people find their way in the increasingly difficult area of occupational choice, vocational guidance services were developed, beginning with the Boston Vocational Bureau established by Frank Parsons in 1908. Early in this century, high schools and colleges began to employ vocational counselors to evaluate students' aptitudes and give them information about appropriate career paths. Counselors were expected to become proficient in aptitude evaluation by means of tests, in knowledge of occupations, and in dealing with young people. At the same time, many authors and publishers began to provide booklets of information about occupations or groups of occupations for vocational counseling purposes. Some of these resources were excellent, but some were ill informed, and others, issued by industries or schools, seemed to be little more than recruitment literature. The counselor's job included evaluating written materials, and assembling a library and keeping it up to date with newly published booklets.

During the first administration of Franklin D. Roosevelt, when so many other institutions felt the winds of change, the

educational system also came under scrutiny. In 1936, the President created an Advisory Committee on Education, consisting of leading educators, industrialists, union leaders, and government officials, to study the Nation's program of vocational education, and to advise the Congress and the Executive Branch on the need for updating and expanding the program. A few months after the Committee was established, the President broadened its assignment to include the entire subject of the Federal relationship to State and local conduct of education. The Committee report,<sup>2</sup> issued in February 1938, cited as a major problem the inequality of educational opportunity resulting from disparate funding by poor and rich States, and supported a continuing Federal role in aiding education while urging a preponderance of State and local control. In its review of the status of vocational education, the report pointed to several problems, including the proliferation of some courses of study without regard to employment opportunities in the subject fields. On the broader topic of the education and adjustment of youth, the authors of the report observed:

At present, no one can advise young people with any assurance as to the relative opportunities in the various occupational fields to which their abilities may be suited. The available information is scattered, fragmentary, and frequently unreliable. Moreover, the lack of adequate information makes it impossible for schools to plan their offerings of vocational courses in accordance with prospective outlets for graduates... An occupational outlook service is needed that will provide a clear description of each of the major occupations or groups of minor occupations, the kind of life each occupation offers, the character of the preparation essential to enter it, the numbers employed and the trend of employment, the numbers of new employees taken on each year, and the numbers of youth in each year of college or secondary school preparation who have the intention of entering the occupation, if possible.

The report went on to say that the information with which to assess the employment outlook for an occupation should come from many sources. It specified information from the U.S. Departments of Commerce, Agriculture, Interior, and Labor; the Social Security Board; the U.S. Office of Education; State agencies, including the employment services; and trade associations and similar groups. In conclusion, the Committee said: "Definite responsibility for [occupational outlook research] must be assigned to some agency, and at least a modest appropriation must be provided for the purpose. The Bureau of Labor Statistics in the Department of Labor has been carrying on closely related studies for many years and would appear to be the most appropriate agency to make long-range studies of the occupational outlook. The Committee, therefore, recommends that the Bureau of Labor Statistics be assigned responsibility for carrying on an occupational outlook service."

Then-Acting Commissioner of Labor Statistics, A. Ford Hinrichs, requested and received an appropriation of \$40,000 for fiscal year 1940 to start the work.

### First steps toward a research program

Of all the tasks given to the new occupational outlook service, the most daunting was to evaluate the prospects for employment in various occupations. The Advisory Committee had likened the effort that would be required to the preparation of agricultural outlook reports by the Department of Agriculture. The latter, however, were short-term crop outlook estimates issued several times each growing season, based on information on the number of acres planted to each crop, weather reports, and the status of the crops as reported by farm agents throughout the country. To be useful to young people contemplating a long course of training, information on occupational outlook had to look ahead at least the several years to the completion of training, and then, more generally, to the prospects for a lifetime of employment. While crop prospects have far more variability from month to month than do those for occupations, the latter require long-term predictions—an art better developed among tarot card readers than among economists.

In describing what the BLS would do with the princely appropriation he was requesting, Commissioner Hinrichs pointed out that developing a research program would take some time. He indicated the need for analyses of trends in population, national income, technological change, and changing consumer tastes, because all of these factors affect the markets and production prospects for each industry. He also proposed trying to anticipate changes in the employment of occupations within each industry by looking at the patterns of occupational employment in the most technologically advanced plants. BLS would carefully develop this research, drawing on its experience in studying employment changes, technological development and productivity, and wage trends.

Work in developing the occupational outlook research had hardly begun by Pearl Harbor day, and the project's small staff immediately was plunged into finding solutions for more-pressing wartime manpower problems. But, fortuitously, development of analytical methods for occupational outlook research went on in another part of BLS. The experience of the first World War and its aftermath had led some policymakers to ask whether future rapid demobilization of the Armed Forces, coming at the same time as the closing down of war production, would create serious unemployment. This was a significant question for a Nation that had never—until World War II defense production began—fully recovered from a decade of economic depression. To look at potential problems of postwar re-adjustment, a Postwar Division was created in BLS.

The postwar studies group, charged with examining the likely employment prospects after military and industrial demobilization, began a research program similar to that needed for occupational outlook research. One of the problems they encountered involved finding a good way to trace the effects of estimated production levels for consumer goods and services back to the supplier industries. For example, the production of automobiles requires raw materials such as iron and industrial machinery used on an assembly line. To account for these flows of economic resources, BLS analysts used a method pioneered by the economist Wassily Leontiev, for which he was later awarded a Nobel prize. The method used data on each industry's purchases from, and sales to, every other industry to build an "input-output" model of a nation's economy.

Even as BLS was occupied with problems of wartime mobilization and postwar demobilization in the closing years of World War II, it received a letter from the Veterans Administration (VA) pointing to the urgent need for occupational outlook information. Congress had just passed the Serviceman's Readjustment Act of 1944 (the "G.I. Bill of Rights"), providing for educational benefits for servicemen and women. Following the implementation of a similar program after the World War I, many critics had claimed that veterans were being put through training in some fields without regard to employment opportunities. To avoid taking the same wasteful approach after the end of the current conflict, the VA planned to give returning veterans truly meaningful information on employment opportunities in the various occupations, and asked BLS to have such information ready by the time of military demobilization.

BLS responded by resuming occupational outlook research. Because of the need to cover many occupations quickly, the VA transferred funds to supplement BLS resources. The occupational outlook analysts developed brief reports on a great variety of occupations, and sent them to the VA, which printed them. Then, to the politely repressed amusement of the BLS staff, who were familiar with vocational counselors' extensive libraries, the VA had holes punched in the reports and bound them together between a front and a back cover with a long black shoelace. The final product, shoelace and all, was called VA Manual M7-1, *Occupational Outlook Information*. It was used in VA educational program centers throughout the United States, and on bases overseas, to counsel the millions of veterans who received education or training under the G.I. Bill.

At the same time, BLS began to provide occupational outlook information for the general public, and for its particular market—vocational counselors and young people in school. The first publication on the subject was *Employment Outlook for Diesel-Engine Mechanics* by Frank Dischel, issued in the BLS bulletin series in 1945. Among the bulletins that followed

was *Employment Outlook for Railroad Occupations*, by Gloria H. Count. In order to demonstrate to Ms. Count the work of its engine crews, the Baltimore and Ohio Railroad had let her ride in the cab of a steam locomotive from Washington to Baltimore, and in a diesel locomotive back to Washington. Reportedly the first woman to ride in a locomotive, she provided a small footnote to history. Other early publications in the series dealt with aviation occupations, automobile mechanics, and occupations in printing, foundries, and machine shops. Sales of the reports by the Superintendent of Documents amounted to a few hundred to a few thousand of each—typical for BLS publications of the time.

### Finding a way to reach the users

To better understand the needs of persons using BLS information, Bureau employees visited counselors in schools and attended conventions of the National Vocational Guidance Association (NVGA),<sup>3</sup> their professional society. It became apparent to the BLS staff that vocational counselors had many duties and calls upon their time, and, therefore, little opportunity to become experts about individual occupations, or to evaluate career guidance pamphlets for content and objectivity. Indeed, the first order of business for counselors was to learn the skills of individual evaluation—aptitude and related psychological testing—a difficult discipline in itself. In addition, the guidance counselor often was the only staff person in a school other than the school nurse, and so was frequently tapped by the principal for whatever administrative tasks came up. Finally, many counselors became more interested in other aspects of their jobs, such as psychological counseling for children with emotional problems, than in the pure realm of vocational guidance. At the first NVGA convention this writer attended, in 1946, the great interest was in Carl Rogers's new idea of "non-directive counseling," in which the counselor refrained from prescriptive advice. Instead, the student was encouraged to voice his or her problems and anxieties, and, in this way, work toward a solution. This approach was getting close to the healing arts, a field that held attractions for some counselors far beyond mundane vocational guidance. Thus, just as BLS started to target publications for counselors, it became obvious that counselors were going to have less time than ever to study the complexities of the "world of work," or even to carefully accumulate a library of occupational information.

How, then, could BLS help schools and counselors get information about hundreds of occupations that was reliable, up to date, and objective; that they could acquire easily; and that they could either consult themselves, or, better, give to the students to read? A single volume, frequently updated, seemed to be the best answer. So, the Veterans Administration manual—symbolized by the shoelace—proved to be the model

when BLS launched the *Occupational Outlook Handbook* in 1949.

It is fair to say that, despite assiduous attempts to make the *Occupational Outlook Handbook* readable for young people, the publication basically follows the traditional BLS style—a sober presentation of a great deal of factual information. The major concession to the intended market is the generous use of photographs illustrating occupations—a small concession indeed, unless one finds glamour in a picture of an electrician poking a screwdriver at a junction box.

Nevertheless, user response was overwhelmingly favorable. The U.S. Government Printing Office (GPO) sold an astonishing 40,000 copies of the first edition. (For those who like this sort of comparison, 40,000 copies of the inch-thick book, if stacked one on top of the other, would form a pile 3 times taller than the Washington Monument.) Throughout the post-war years, sales of the *Occupational Outlook Handbook* have been far higher than those of the previous occupational outlook bulletins, and, indeed, of those of other typical BLS publications. GPO sales rose with successive biennial editions to a high of 153,000 in 1983. Since that year, GPO sales have declined as a result of a Government policy enabling private publishers to print and sell the publication at lower prices,<sup>4</sup> but total sales of the *Occupational Outlook Handbook* by all publishers have increased further. In fact, these sales far exceed the number of high schools, colleges, and public libraries in the United States, reflecting a substantial market among individuals and families.

The sales are noteworthy in view of the price, which rose from \$1.75 for the 1949 edition in paperback, to \$9 for the 1982–83 edition, and to \$42 for the 1998–99 edition. In recent years, "electronic publishing," undreamed-of in 1949 when the first *Occupational Outlook Handbook* was issued, has enabled many thousands of additional readers to consult the information it contains, as described in the article by Michael Pilot elsewhere in this issue. These figures on sales and other measures of demand seem inconsistent with the sober, fact-packed "BLS style" of the publication. This bird walks like a duckling, it quacks like a duckling—yet it flies like a swan. The demand reflects the great public interest in the information, anticipated by the Advisory Committee on Education in 1938, as well as a fine solution to a marketing problem, based on an idea borrowed from the Veterans Administration.

### Work still to be done

In starting the occupational outlook project, BLS Commissioner Hinrichs had said the research would take some time. Much has been accomplished over the years, some of which is described in the article by Michael Pilot elsewhere in this issue of the *Review*. Yet, a half-century later, there is still work

to be done. To illustrate, I will mention just two areas of research that need more attention—occupational earnings and the occupational composition of industries.

Earnings data have been described extensively in the *Occupational Outlook Handbook*, as one would expect in a publication of the Federal Government's chief agency for collecting and analyzing wage and earnings data. But, much of the information given has not been well-adapted for persons trying to make an informed choice among occupations. Because the earnings data are derived from many different sources—including employer records, as well as interviews in households—they are not described uniformly. They may be expressed as annual rates for some occupations, as weekly or hourly rates for others, sometimes as medians, and sometimes as the range for the middle 50 percent of workers in the occupation. Regional averages are provided for some occupations, and, for others, information is presented about earnings of workers at different ages or lengths of experience, and so on. Despite an earnest attempt by BLS to provide whatever information is available, readers may still find it difficult to compare occupations on the basis of earnings, a core element of career choice.

The Occupational Employment Statistics program, which is the source for industry staffing patterns used in the *Occupational Outlook Handbook*, now obtains occupational earnings data. This new data source could be utilized to improve the earnings statistics in the *Occupational Outlook Handbook*. Comparison of earnings would be easier if the *Handbook* were to show: 1) the median for each occupation; 2) the pay range in which the middle half of workers in the occupation falls, to avoid the oversimplification resulting from the use of medians alone; and 3) the median for the occupation as a relative to the median for all occupations—for example, .92 or 1.15—so that some sense of the *structure of occupational earnings in the United States* would be gained. In addition, the static picture of the structure of earnings in the recent past needs to be supplemented by analysis of the ways in which earnings in occupations change in relation to each other. This analysis should, of

course, include consideration of changing labor supply and demand. This opens the prospect of a whole new area of analysis, in which very little has been done by BLS to date.

Analysis of the changing occupational composition of industries was one of the techniques mentioned by Commissioner Hinrichs when he first told the Congress how he would go about occupational outlook research. Looking at the occupational composition of the most advanced plants in each industry was, he said, going to give clues as to the future occupational composition of the whole industry.

These clues were not available in the early days of occupational outlook research. At that time, the principle data on the occupational composition of industries came from the decennial censuses of population, based on workers' reports to the census on their industry and occupation, and could not show the occupational composition of individual establishments. Only since the 1970s, when BLS, in cooperation with State agencies, began to collect data on employment by occupation through the Occupational Employment Statistics program, has it become possible to study the occupational composition of individual establishments. This survey has provided information on the occupational composition of industries at many points in time. However, to identify the most advanced plants in each industry, it is necessary to go further and collect data on the technology used in each establishment. In-depth analysis of the change in occupational composition, along with information on technological change, may then lead to better estimates of the future composition of each industry that are so vital to the development of good occupational employment projections.

The need for industry composition research is underlined by studies of the accuracy of forecasts conducted by the occupational outlook research staff. Those studies indicate that most of the error in the occupational projections stems from poor projections of occupational staffing patterns of industries.<sup>5</sup> Thus, despite the warm reception that its work in the field of occupational outlook has received, BLS can do still more to meet the needs of users. □

## Footnotes

<sup>1</sup> We are indebted for this insight to the late Avner Hovne of the Ministry of Labor of Israel.

<sup>2</sup> The Advisory Committee on Education, *Report of the Committee* (Washington, Government Printing Office, February 1938). Recommendations for an Occupational Outlook Service are on pp. 104–07 of the report.

<sup>3</sup> This organization is now known as the National Career Development Association.

<sup>4</sup> Government publications are in the public domain, so private publishers are free to reprint them. The Government Printing Office is required, by law, to sell the stereotype or electrotype plates from which a Government publication has been printed, at a small percentage above cost. This enables

private publishers to print the *Occupational Outlook Handbook* at low cost; in fact, several publishers now reprint the *Handbook* and sell it at a price below that of the GPO. The copy of the *Handbook* in the public library used by this writer—complete from the photographs of the Secretary of Labor and the Commissioner of Labor Statistics at the beginning, to the index at the back—was issued by a private publisher and sold well below the GPO price. The statement in the text of this article that total sales of the *Handbook* by the GPO and all other publishers currently exceed 150,000 is based on information from some private publishers.

<sup>5</sup> See Carolyn M. Veneri, "Evaluating the 1995 occupational employment projections," *Monthly Labor Review*, September 1997, p. 29.